CIVIL TECH LABS

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5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP.

07th July 2016

Dear Sir,

Sub: Testing of Semi Dense Bituminous Concrete.

As requested, tests on physical properties were carried out for the Semi Dense Bituminous Concrete supplied by you, for the work of **'Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

AE 11

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ವಿದ್ಯಾರಣ್ಯಪುರ ಉಪ ವಿಭಾಗ,
ಯಲಹಂಕ ವಲಯ,
ಬ. ಬೆಂ. ಮ. ಪಾ. ಬೆಂಗಳೂರು-97.

CIVIL TECH LABS
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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Semi Dense Bituminous Concrete

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016
Reference	**MORTH Table 500-14**

Sl. No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	20.6	21.2	Satisfactory (As per MORTH for SDBC, Maximum allowed AIV is 27 %)
2	21.8		

Test	Result in %	Combined Flekiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	12.5	24.3	Satisfactory (As per MORTH for SDBC, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	11.8		

Note:

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3.Any correction invalidates this report.

4.The results are based on the test conducted on samples supplied by the client.

Khushboo

(KHUSHBOO L.)
Quality Manager

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TEST REPORT

WATER ABSORPTION TEST OF ROAD AGGREGATES

Semi Dense Bituminous Concrete (SDBC)

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016

Method of Test	Sample No.	Water Absorption in %	Average Water Absorption in %	As per MORTH Table 500-14	Remarks
IS : 2386 (Part 3)	1	0.84	0.86	**2 % Maximum**	Satisfactory
	2	0.86			
	3	0.89			

Note:

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(KHUSHBOO L.)
Quality Manager

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TEST REPORT

STRIPPING TEST OF ROAD AGGREGATES

Semi Dense Bituminous Concrete

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016

Method of Test	Observation No.	Uncovered Area/Stripping in %	Average Stripping Value in %	As Per Morth Table 500-14	Remarks
IS 6241-1971 (Reafirmed 2003)	1	3.6	3.7	**5 % Maximum**	Satisfactory
	2	3.7			
	3	3.8			

Note:
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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON SEMI DENSE BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	**Test Method A (Centrifuge Method)**	**ASTM: D2172/ D2172M-11**
2	Determination of amount of mineral matter/fines in the extract	**Ashing Method**	

B)

Specification: As Per MORTH (4th Revision) Table 500-15, Bitumen Content for SDBC Grade-2 is MIN 5%		
Sl. No.	**Description**	**Values**
1	Weight of bituminous mixture before extraction test, **W_1 g**	**2000**
2	Weight of mineral aggregate obtained from centrifuge extractor, **W_2 g**	**1883.4**
3	Weight of mineral matter in the total volume of extract (by ashing), **W_3 g**	**11.9**
4	Total weight of aggregate in the bituminous mixture, **W_4 g = (W_2 +W_3) g**	**1895.3**
5	Total weight of Bitumen extracted from the mixture, **W_5 g = (W_1-W_4) g**	**104.7**
6	Bitumen content in %, **(W_5/W_1) %**	**5.23**

Remarks	**Satisfies the requirements.**

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Khushboo

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(KHUSHBOO L.)
Quality Manager

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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	**100**	**Satisfies the requirements**
9.5	90-100	**98.6**	
4.75	35-51	**44.1**	
2.36	24-39	**27.2**	
1.18	15-30	**24.3**	
0.3	9-19	**18.2**	
0.075	3-8	**6.9**	

Note:

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Khushboo

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Quality Manager

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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	07/07/2016
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	**100**	**Satisfies the requirements**
9.5	90-100	**99.2**	
4.75	35-51	**43.5**	
2.36	24-39	**26.9**	
1.18	15-30	**23.5**	
0.3	9-19	**17.1**	
0.075	3-8	**6.5**	

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T-2654

To,

Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP.

08th June 2016

Dear Sir,

Sub: Testing of Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam supplied by you, for the work of **'Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS BANGALORE

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ವಿದ್ಯಾರಣ್ಯಪುರ ಉಪ ವಿಭಾಗ
ಯಲಹಂಕ ವಲಯ,
ಬ ಬೆಂ ಮ ಕಾ . ಬೆಂಗಳೂರು-97

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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Agency of the Name	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Reference	**MORTH Table 400-10**

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.3	22.1	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	21.9		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	12.6	26.1	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	13.5		

Note:

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Lab Incharge
Civil Tech Labs

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Technical Reference	MORTH Table 400-11

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.6**	
22.4	60-80	**73.5**	
11.2	40-60	**52.4**	
4.75	25-40	**32.7**	
2.36	15-30	**24.1**	
0.6	8-22	**18.4**	
0.075	0-8	**6.5**	

Note:

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Technical Reference	MORTH Table 400-11

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**99.2**	
22.4	60-80	**74.1**	
11.2	40-60	**53.8**	
4.75	25-40	**33.5**	
2.36	15-30	**25.6**	
0.6	8-22	**17.5**	
0.075	0-8	**6.8**	

Note:

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Technical Reference	MORTH Table 400-11

	Sample-3		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.6**	
22.4	60-80	**75.3**	
11.2	40-60	**54.1**	
4.75	25-40	**34.7**	
2.36	15-30	**26.3**	
0.6	8-22	**18.3**	
0.075	0-8	**7.1**	

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Khushboo

(KHUSHBOO L.)
Quality Manager

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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Agency of the Name	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Reference	**MORTH Table 400-10**

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.3	22.1	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	21.9		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	12.6	26.1	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	13.5		

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Technical Reference	MORTH Table 400-11

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.6**	
22.4	60-80	**73.5**	
11.2	40-60	**52.4**	
4.75	25-40	**32.7**	
2.36	15-30	**24.1**	
0.6	8-22	**18.4**	
0.075	0-8	**6.5**	

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	08/06/2016
Technical Reference	MORTH Table 400-11

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**99.2**	
22.4	60-80	**74.1**	
11.2	40-60	**53.8**	
4.75	25-40	**33.5**	
2.36	15-30	**25.6**	
0.6	8-22	**17.5**	
0.075	0-8	**6.8**	

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T-2654

To,

Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP.

12th May 2016

Dear Sir,

Sub: Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Testing of cubes – Reg.

As requested the 28th day Compressive Strength Test of Cubes was carried out for the above work for the samples supplied by you.

Please find the enclosed Test Reports of the above.

Thanking you,

For Civil Tech Labs,

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

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ಬಿ ಬಿ ಎಂ ಪಿ . ಬೆಂಗಳೂರು-97

CIVIL TECH LABS

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-1	150.06 X 150.08 X 150.0	22521	14/04/2016	12/05/2016	28	8.20	485	**21.56**	**21.56**
2		150.07 X 150.05 X 150.0	22518				8.19	475	**21.11**	
3		150.08 X 150.04 X 150.0	22518				8.21	495	**22.00**	

Note:

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CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-2	150.09 X 150.07 X 150.0	22524	14/04/2016	12/05/2016	28	8.19	470	**20.89**	**21.48**
2		150.07 X 150.05 X 150.0	22518				8.21	495	**22.00**	
3		150.06 X 150.04 X 150.0	22515				8.20	485	**21.56**	

Note:

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-15
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-1	150.04 X 150.05 X 150.0	22514	11/04/2016	09/05/2016	28	8.19	356	**15.82**	**15.97**
2		150.06 X 150.03 X 150.0	22514				8.20	358	**15.91**	
3		150.05 X 150.04 X 150.0	22514				8.21	364	**16.18**	

Note:

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Khushboo

(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS BANGALORE

CIVIL TECH LABS
5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027
Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-15
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-2	150.04 X 150.06 X 150.0	22515	11/04/2016	09/05/2016	28	8.19	356	**15.82**	**15.82**
2		150.09 X 150.07 X 150.0	22524				8.20	358	**15.91**	
3		150.07 X 150.06 X 150.0	22520				8.21	354	**15.73**	

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(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS

Accredited by **NABL** as per ISO/ IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP.

06th April 2016

Dear Sir,

Sub: Testing of Materials.

As requested, tests on physical properties were carried out for the Materials supplied by you, for the work of **'Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ವಿದ್ಯಾರಣ್ಯಪುರ ಉಪ ವಿಭಾಗ
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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

TEST ON CEMENT

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	06/04/2016

Tests	**Test Method As Per IS & Apparatus**		**Results**		**Requirements As Per IS 8112:1989**	**Remarks**
	IS Code	**Method**	**Value**	**Unit**		
Initial Setting Time	**IS-4031 (Part-5) 1988**	VICAT	51	min	Not Less Than 30 Minutes	Satisfies Requirement
Final Setting Time	**IS-4031 (Part-5) 1988**	VICAT	492	min	Not More Than 600 Minutes	Satisfies Requirement
Soundness	**IS-4031 (Part-3) 1988**	LE-CHATELIER	3	mm	Not More Than 10 mm	Satisfies Requirement

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TEST REPORT

GRADATION TEST ON FINE AGGREGATES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	06/04/2016
Specific Gravity	**2.58**
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011), IS : 2386 (Part III)–1963 (Reaffirmed 2011)

Sample	IS Sieve designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement as per IS:383-1970 (Reaffirmed 2011)				Grading Zone	Remarks
			ZONE-I	ZONE-II	ZONE-III	ZONE-IV		
River Sand	10	**100**	100	100	100	100	II	Satisfies the requirement
	4.75	**99.2**	90-100	90-100	90-100	95-100		
	2.36	**88.3**	60-95	75-100	85-100	95-100		
	1.18	**76.4**	30-70	55-90	75-100	90-100		
	0.6	**49.3**	15-34	35-59	60-79	80-100		
	0.3	**26.2**	5-20	8-30	12-40	15-50		
	0.15	**8.2**	0-10	0-10	0-10	0-15		

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TEST REPORT

GRADATION TEST ON COARSE AGGREGATES 40mm ↓ Graded

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	06/04/2016
Specific Gravity	**2.67**
Water Absorption	**0.29%**
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011), IS : 2386 (Part III)–1963 (Reaffirmed 2011)

IS Sieve Designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement as per IS:383-1970 (Reaffirmed 2011)	Remarks
80	**100**	100	**Satisfies the requirement**
40	**98.6**	95-100	
20	**57.3**	30-70	
10	**26.1**	10-35	
4.75	**3.5**	0-5	

Note:

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Khushboo

(KHUSHBOO L.)
Quality Manager

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TEST REPORT

GRADATION TEST ON COARSE AGGREGATES 20mm ↓ Graded

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Date of Testing	06/04/2016
Specific Gravity	**2.62**
Water Absorption	**0.33%**
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011), IS : 2386 (Part III)–1963 (Reaffirmed 2011)

IS Sieve Designation (mm)	**Sieve Analysis (% Passing IS Sieve)**	**Grading Requirement as per IS:383-1970 (Reaffirmed 2011)**	**Remarks**
40	**100**	100	**Satisfies the requirement**
20	**98.6**	95-100	
10	**46.1**	25-55	
4.75	**7.9**	0-10	

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TEST REPORT

TESTS ON REINFORCEMENT STEEL BAR 16 mm

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of testing	06/04/2016
Grade of Steel	Fe - 500.

Sl.No.	Description	Result	IS 1786-2008 Min. Requirements	Remarks
1	Measured Diameter mm	16	16	Satisfactory
2	Wt/m Length (Kg/m)	1.58	1.58	Satisfactory
3	Bend & RebendTest	Pass	Should not Crack or Fracture	Satisfactory
4	Elongation (%)	16.2	12	Satisfactory
5	Yield Stress(N/Sq.mm)	522	500	Satisfactory
6	U T S (N/Sq.mm)	580	545	Satisfactory

Note:
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4. The results are based on the test conducted on samples supplied by the client.

Khushboo

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Quality Manager

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TEST REPORT

TESTS ON REINFORCEMENT STEEL BAR 12 mm

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of the Agency	Sri. N. Thirunagendra
Date of Testing	06/04/2016
Grade of Steel	Fe - 500.

Sl.No.	Description	Result	IS 1786-2008 Min. Requirements	Remarks
1	Measured Diameter mm	12	12	Satisfactory
2	Wt/m Length (Kg/m)	0.888	0.888	Satisfactory
3	Bend & RebendTest	Pass	Should not Crack or Fracture	Satisfactory
4	Elongation (%)	15.5	12	Satisfactory
5	Yield Stress(N/Sq.mm)	518	500	Satisfactory
6	U T S (N/Sq.mm)	576	545	Satisfactory

Note:

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(KHUSHBOO L.)
Quality Manager

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Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP.

30th May 2016

Dear Sir,

Sub: Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Testing of cubes – Reg.

As requested the 28th day Compressive Strength Test of Cubes was carried out for the above work for the samples supplied by you.

Please find the enclosed Test Reports of the above.

Thanking you,

For Civil Tech Labs,

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

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ವಿದ್ಯಾರಣ್ಯಪುರ ಉಪ ವಿಭಾಗ
ಯಲಹಂಕ ವಲಯ,
ಬ. ಬೆಂ ಮ ಸಾ . ಬೆಂಗಳೂರು-97

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-1	150.07 X 150.08 X 150.0	22523	02/05/2016	30/05/2016	28	8.22	505	**22.44**	**22.00**
2		150.06 X 150.05 X 150.0	22517				8.19	485	**21.56**	
3		150.03 X 150.05 X 150.0	22512				8.20	495	**22.00**	

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Quality Manager

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-2	150.04 X 150.03 X 150.0	22511	02/05/2016	30/05/2016	28	8.20	495	**22.00**	**22.07**
2		150.05 X 150.04 X 150.0	22514				8.19	490	**21.78**	
3		150.06 X 150.07 X 150.0	22520				8.21	505	**22.44**	

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-3	150.08 X 150.07 X 150.0	22523	02/05/2016	30/05/2016	28	8.21	505	**22.44**	**22.37**
2		150.09 X 150.08 X 150.0	22526				8.22	510	**22.67**	
3		150.06 X 150.04 X 150.0	22515				8.19	495	**22.00**	

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(KHUSHBOO L.T.
Quality Manager

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-4	150.06 X 150.07 X 150.0	22520	02/05/2016	30/05/2016	28	8.21	500	**22.22**	**22.00**
2		150.04 X 150.01 X 150.0	22508				8.22	505	**22.44**	
3		150.02 X 150.03 X 150.0	22508				8.19	480	**21.33**	

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-5	150.03 X 150.05 X 150.0	22512	02/05/2016	30/05/2016	28	8.19	485	**21.56**	**21.93**
2		150.02 X 150.04 X 150.0	22509				8.21	495	**22.00**	
3		150.05 X 150.06 X 150.0	22517				8.22	500	**22.22**	

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Khushboo

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-6	150.05 X 150.04 X 150.0	22514	02/05/2016	30/05/2016	28	8.22	500	**22.22**	**21.93**
2		150.07 X 150.05 X 150.0	22518				8.19	495	**22.00**	
3		150.08 X 150.09 X 150.0	22526				8.20	485	**21.56**	

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TEST REPORT

COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

Name & Address of the Customer	AEE, Vidyaranyapura Sub Division, BBMP.
Name of Work	Improvements to roads at Ashraya layout main road and cross roads in ward no.11 (Kuvempunagara) Vidyaranyapuram sub division.
Name of Agency	Sri. N. Thirunagendra
Grade of Concrete	M-20
No. of cubes tested	3
Technical Reference	IS: 516-1959 (Reaffirmed 2013)

Sl. No.	ID	Dimension of specimen (mm)	Cross sectional area (mm^2)	Date of Casting	Date of Testing	Age at test (Days)	Weight (Kg)	Failure Load (KN)	Compressive Strength (N/mm^2)	Avg Compressive Strength (N/mm^2)
1	Sample-7	150.04 X 150.05 X 150.0	22514	02/05/2016	30/05/2016	28	8.22	495	**22.00**	**21.56**
2		150.05 X 150.04 X 150.0	22514				8.19	475	**21.11**	
3		150.03 X 150.07 X 150.0	22515				8.20	485	**21.56**	

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Quality Manager

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